

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (Currently amended) An electrophoretic display comprising:
a first gate line and a second gate which extends extend in a first direction;
a first data line and a second data line which extends extend in a second direction
substantially perpendicular to the first direction; and
a first pixel electrode disposed in a first region restricted by the first gate line, and the the
second gate line, the first data line and the second data line; and
a second pixel electrode disposed in a second region restricted by the gate line and the
data line and disposed adjacent to the first region,
wherein entire lengths of opposing edges defining a first side and a second side of the
first pixel electrode along the second direction between the first gate line and the second gate line
overlap the first data line and the second data line, respectively one of the gate line and the data
line is interposed between the first pixel electrode and the second pixel electrode and overlaps a
portion of the first pixel electrode and a portion of the second pixel electrode.
2. (Currently amended) The electrophoretic display of claim 1, ~~wherein the portion of the~~
~~first pixel electrode and the portion of the second pixel electrode overlap a portion of a width of~~
~~the data line extending in the second direction between adjacent gate lines~~further comprising a
second pixel electrode disposed in a second region adjacent to the first region, wherein
the second pixel electrode comprises a first side and a second side opposite the first side,
and
one of the first data line and the second data line overlaps an entire length of an edge of
the second pixel electrode defining one of the first side of the second pixel electrode and the
second side of the second pixel electrode.

3. (Currently amended) The electrophoretic display of claim 1, further comprising:
an insulating layer interposed between one of the first data line and the second data line
and ~~one of the first pixel electrode and the second pixel electrode~~,
wherein the insulating layer has a dielectric constant lower than approximately 4.

4. (Currently amended) The electrophoretic display of claim 1, wherein one of the first data line and the second data line is made of a metal selected from a group consisting of Mo, Mo alloy, Cr, Ta and Ti.

5. (Currently amended) The electrophoretic display of claim 1, further comprising:
a thin film transistor comprising:
a channel;
a source electrode; and
a drain electrode;
wherein the first pixel electrode ~~and the second pixel electrode are~~ is made of opaque material, and
~~wherein the first pixel electrode and the second pixel electrode overlaps~~ the channel of the thin film transistor.

6. (Currently amended) The electrophoretic display of claim 3, wherein the insulating layer is made of ~~a-Si:C:O or a-Si:O:F~~ one of a-Si:C:O and a-Si:O:F.

7. (Currently amended) An electrophoretic display comprising:
a substrate;
a first gate line and a second gate line which ~~extends extend~~ in a first direction; and
a first data line and a second data line which ~~extends extend~~ in a second direction substantially perpendicular to the first direction;
a first thin film transistor comprising:
a first channel;
a first gate electrode;

a first source electrode;
a first drain electrode; and
a first semiconductor layer;
a first opaque layer formed on the first semiconductor layer and disposed over the channel of the first thin film transistor;
a second thin film transistor disposed adjacent to the first thin film transistor and comprising:

a second channel;
a second gate electrode;
a second source electrode;
a second drain electrode; and
a second semiconductor layer;
a second opaque layer formed on the second semiconductor layer and disposed over the channel of the second thin film transistor;
a first pixel electrode disposed over the first thin film transistor; and
a second pixel electrode disposed over the second thin film transistor,
wherein ~~one of the gate line and the data line is interposed between the first pixel electrode and the second pixel electrode and overlaps a portion of the first pixel electrode and a portion of the second pixel electrode~~ entire lengths of opposing edges defining a first side and a second side of the first pixel electrode along the second direction between the first gate line and the second gate line overlap the first data line and the second data line, respectively.

8. (Canceled)

9. (Currently amended) The electrophoretic display of claim 7, further comprising:
an insulating layer formed between the one of the first data line and the second data line
and one of the first pixel electrode and the second pixel electrode,
wherein the insulating layer has a dielectric constant smaller than approximately 4.

10. (Currently amended) The electrophoretic display of claim 7, wherein one of the first data line and the second data line is made of a metal selected from a group consisting of Mo, Mo alloy, Cr, Ta and Ti.

11. (Currently amended) The electrophoretic display of claim 7,
wherein the first pixel electrode and the second pixel electrode are made of opaque material, and
wherein the first pixel electrode and the second pixel electrode overlap the channel of the first thin film transistor and the second thin film transistor, respectively.

12. (Currently amended) The electrophoretic display of claim 9, wherein the insulating layer is made of ~~a-Si:C:O or a-Si:O:F~~ one of a-Si:C:O and a-Si:O:F.

13. (Canceled)

14. (Currently amended) An electrophoretic display comprising:
a substrate;
a thin film transistor formed on a surface of the substrate, the thin film transistor comprising:
a source electrode and a drain electrode formed on the substrate;
a semiconductor layer formed on the source electrode and the drain electrode;
an insulation layer formed on the semiconductor layer; and
a gate electrode formed on the insulation layer;
a first gate line and a second gate line which extends extend in a first direction;
a first data line and a second data line which extends extend in a second direction substantially perpendicular to the first direction;
a first pixel electrode disposed in a first region restricted by the first gate line, the second gate line, the first data line and the second data line; and
a second pixel electrode disposed in a second region restricted by the gate line and the data line and disposed adjacent to the first region,

wherein ~~one of the gate line and the data line is interposed between the first pixel electrode and the second pixel electrode and overlaps a portion of the first pixel electrode and a portion of the second pixel electrode~~ entire lengths of opposing edges defining a first side and a second side of the first pixel electrode along the second direction between the first gate line and the second gate line overlap the first data line and the second data line.

15. (Canceled)

16. (Currently amended) The electrophoretic display of claim 14, further comprising:
an insulating layer formed between one of the first data line and the second data line and
one of the first pixel electrode and the second pixel electrode,
wherein the insulating layer has a dielectric constant smaller than approximately 4.

17. (Currently amended) The electrophoretic display of claim 14,
wherein one of the first data line and the second data line is made of a metal selected
from a group consisting of Mo, Mo alloy, Cr, Ta and Ti.

18. (Currently amended) The electrophoretic display of claim 14, wherein an inclination
angle of one of the first gate line, the second data line, the first data line or the and the second
data line relative to ~~the surface~~ a surface of the substrate ranges from between about
approximately 20 degrees to about approximately 80 degrees.

19. (Currently amended) The electrophoretic display of claim 16, wherein the insulating
layer is made of ~~a-Si:C:O or a-Si:O:F~~ one of a-Si:C:O and a-Si:O:F.

20. (Currently amended) An electrophoretic display comprising:
a first gate line and a second gate line which ~~extends~~ extend in a first direction;
a first data line and a second data line which ~~extends~~ extend in a second direction
substantially perpendicular to the first direction;
a first pixel electrode disposed in a first region restricted by the first gate line, the second
gate line, the first data line and the second data line;

a second pixel electrode disposed in a second region ~~restricted by the gate line and the data line and disposed adjacent to the first region;~~

a common electrode; and

a plurality of micro-capsules,

wherein each microcapsule of the plurality of microcapsules comprises electric ink ~~containing~~ comprising a plurality of color pigment particles,

wherein a color of the plurality of color pigment particles is at least one of red, green, blue, cyan, yellow, magenta, black and white, and

entire lengths of opposing edges defining a first side and a second side of the first pixel electrode along the second direction between the first gate line and the second gate line overlap the first data line and the second data line and

~~wherein one of the gate line and the data line is interposed between the first pixel electrode and the second pixel electrode and overlaps a portion of the first pixel electrode and a portion of the second pixel electrode.~~

21. (Currently amended) The electrophoretic display of claim 20, ~~wherein a portion of the first pixel electrode and a portion of the second pixel electrode overlap a portion of a width of the data line extending in the second direction between adjacent gate lines the second pixel electrode comprises a first side and a second side opposite the first side, and~~

one of the first data line and the second data line overlaps an entire length of an edge of the second pixel electrode defining one of the first side of the second pixel electrode and the second side of the second pixel electrode.

22. (Currently amended) The electrophoretic display of claim 20, further comprising:
an insulating layer formed between one of the first data line and the second data line and ~~one of~~ the first pixel electrode and the second pixel electrode,

wherein the insulating layer has a dielectric constant lower ~~than~~ approximately 4.

23. (Canceled)

24. (New) The electrophoretic display of claim 1, wherein entire lengths of opposing edges of the first pixel electrode defining a third side and a fourth side of the first pixel electrode along the first direction between the first data line and the second data line overlap the first gate line and the second gate line, respectively.

25. (New) The electrophoretic display of claim 7, wherein entire lengths of opposing edges of the first pixel electrode defining a third side and a fourth side of the first pixel electrode along the first direction between the first data line and the second data line overlap the first gate line and the second gate line, respectively.

26. (New) The electrophoretic display of claim 14, wherein entire lengths of opposing edges of the first pixel electrode defining a third side and a fourth side of the first pixel electrode along the first direction between the first data line and the second data line overlap the first gate line and the second gate line, respectively.

27. (New) The electrophoretic display of claim 20, wherein entire lengths of opposing edges of the first pixel electrode defining a third side and a fourth side of the first pixel electrode along the first direction between the first data line and the second data line overlap the first gate line and the second gate line, respectively.